THE JOURNAL OF EXPERIMENTAL MEDICINE

Published Semimonthly by The Rockefeller University Press

Edited by

Alan N. Houghton, Carl Nathan, David N. Posnett
Maclyn McCarty, Michel Nussenzweig, Ralph Steinman
William A. Muller

Managing Editor

Philip L. Bernstein

Advisory Editors

Paul Allen
Frederick W. Alt
K. Frank Austen
Marco Baggiolini
Jacques Banchereau
Albert Bendelac
Michael J. Bevan
Christian Bogdan
Thierry Boon
Thomas J. Braciale
Patrick Brennan
Hal E. Broxmeyer
Yongwon Choi
Robert L. Coffman
Suzanne Cory
Ramzi S. Cotran
Victor H. Engelhard
Anthony S. Fauci
Douglas T. Fearon
Vincent A. Fischetti
B.J. Fowlkes
John Fraser
Shu Man Fu
Stephen J. Galli
Ronald N. Germain
Laurie H. Glimcher
Pierre Golstein
Christopher Goodnow
Siamon Gordon
Emil C. Gotschlich
Sergio Grinstein
Pierre A. Henkart
David D. Ho
Richard J. Hodes
Tasuku Honjo
Kayo Inaba
John W. Kappler
Elliott Kieff
Tadamitsu Kishimoto
Seymour J. Klebanoff
Richard A. Koup
Lewis L. Lanier
Antonio Lanzavecchia
Michael J. Lenardo
Richard M. Locksley
Lucio Luzzatto
H.R. MacDonald
Linda MacPhail
Bernard Malissen
Philippa Marrack
Don Mason
Diane Mathis
Lloyd F. Mayer
Ira Mellman
Louis H. Miller
John J. Monaco
John P. Moore
Victor Nussenzweig
Anne O'Garra
Michael B.A. Oldstone
Peter Parham
William E. Paul
Roger M. Perlmutter
Bice Perussia
Hidde Ploegh
Daniel A. Portnoy
Klaus Rajewsky
Anjana Rao
Jeffrey Ravetch
Westley H. Reeves
A.B. Rickinson
Steven Rosen
David H. Sachs
Lawrence E. Samelson
Matthew D. Scharff
Hans Schreiber
Gerold Schuler
Robert A. Seder
Rafick-P. Sékaly
Charles N. Serhan
Stephen Shaw
Alan Sher
Ken D. Shortman
Roy L. Silverstein
Alfred Singer
Jonathan Sprent
Susan Swain
Eng M. Tan
Giorgio Trinchieri
Herbert Virgin
Harald von Boehmer
Sharon M. Wahl
Arthur Weiss
Raymond M. Welsh
Zena Werb
Linda S. Wicker
Ian Wilson
Henry J. Winn
Samuel D. Wright
Wayne M. Yokoyama

Copy and Production Editors Karyn N. Silverman, Ann Flower-DePaolo, and Tina M. Hoynash
Editorial Assistants Paulette Zabriskie, Meta Wyss, and Isabelle Brisson

VOLUME 189

1999

Copyright © 1999 by The Rockefeller University Press

Contents

Volume 189 No. 1 January 4, 1999

1 ***Joachim L. Schultze, Sabine Michalak, Joel Lowne, Adam Wong, Maria H. Gilleece, John G. Gribben, and Lee M. Nadler.*** Human non-germinal center B cell interleukin (IL)-12 production is primarily regulated by T cell signals CD40 ligand, interferon γ, and IL-10: role of B cells in the maintenance of T cell responses

13 ***Kristin K. Baldwin, Philip A. Reay, Lawren Wu, Andrew Farr, and Mark M. Davis.*** A T cell receptor–specific blockade of positive selection

25 ***Mercedes Domínguez and Alfredo Toraño.*** Immune adherence–mediated opsonophagocytosis: the mechanism of *Leishmania* infection

37 ***Jens V. Stein, Guiying Cheng, Britt M. Stockton, Brian P. Fors, Eugene C. Butcher, and Ulrich H. von Andrian.*** L-selectin–mediated leukocyte adhesion in vivo: microvillous distribution determines tethering efficiency, but not rolling velocity

51 ***Tomoshige Kino, Alexander Gragerov, Jeffrey B. Kopp, Roland H. Stauber, George N. Pavlakis, and George P. Chrousos.*** The HIV-1 virion-associated protein Vpr is a coactivator of the human glucocorticoid receptor

63 ***Nobuo Kiuchi, Koichi Nakajima, Makoto Ichiba, Toshiyuki Fukada, Masahiro Narimatsu, Katsunori Mizuno, Masahiko Hibi, and Toshio Hirano.*** STAT3 is required for the gp130-mediated full activation of the c-*myc* gene

75 ***Tatiana I. Novobrantseva, Verena M. Martin, Roberta Pelanda, Werner Müller, Klaus Rajewsky, and Andreas Ehlich.*** Rearrangement and expression of immunoglobulin light chain genes can precede heavy chain expression during normal B cell development in mice

89 ***Thomas Proft, S. Louise Moffatt, Celia J. Berkahn, and John D. Fraser.*** Identification and characterization of novel superantigens from *Streptococcus pyogenes*

103 ***Ya-Hui Chiu, Jayanthi Jayawardena, Angela Weiss, Daniel Lee, Se-Ho Park, Alice Dautry-Varsat, and Albert Bendelac.*** Distinct subsets of CD1d-restricted T cells recognize self-antigens loaded in different cellular compartments

111 ***Jean-François Cloutier and André Veillette.*** Cooperative inhibition of T-cell antigen receptor signaling by a complex between a kinase and a phosphatase

123 ***Albert C. Shaw, Wojciech Swat, Roger Ferrini, Laurie Davidson, and Frederick W. Alt.*** Activated Ras signals developmental progression of recombinase-activating gene (RAG)-deficient pro-B lymphocytes

131 ***Glen MacDonald, Lianfa Shi, Christine Vande Velde, Judy Lieberman, and Arnold H. Greenberg.*** Mitochondria-dependent and -independent regulation of granzyme B–induced apoptosis

145 ***Thore Hettmann, Joseph DiDonato, Michael Karin, and Jeffrey M. Leiden.*** An essential role for nuclear factor κB in promoting double positive thymocyte apoptosis

159 ***Robert Endres, Marat B. Alimzhanov, Thomas Plitz, Agnes Fütterer, Marie H. Kosco-Vilbois, Sergei A. Nedospasov, Klaus Rajewsky, and Klaus Pfeffer.*** Mature follicular dendritic cell networks depend on expression of lymphotoxin β receptor by radioresistant stromal cells and of lymphotoxin β and tumor necrosis factor by B cells

169 ***Omid Akbari, Naveed Panjwani, Sylvie Garcia, Ricardo Tascon, Doug Lowrie, and Brigitta Stockinger.*** DNA vaccination: transfection and activation of dendritic cells as key events for immunity

179 ***Raphael Clynes, Jay S. Maizes, Rodolphe Guinamard, Masao Ono, Toshiyuki Takai, and Jeffrey V. Ravetch.*** Modulation of immune complex–induced inflammation in vivo by the coordinate expression of activation and inhibitory Fc receptors

187 ***Takae Yuasa, Satoshi Kubo, Tadashi Yoshino, Azusa Ujike, Kimio Matsumura, Masao Ono, Jeffrey V. Ravetch, and Toshiyuki Takai.*** Deletion of Fcγ receptor IIB renders H-2^b mice susceptible to collagen-induced arthritis

195 ***Ethan P. Grant, Massimo Degano, Jean-Pierre Rosat, Steffen Stenger, Robert L. Modlin, Ian A. Wilson, Steven A. Porcelli, and Michael B. Brenner.*** Molecular recognition of lipid antigens by T cell receptors

Brief Definitive Report

207 ***Nozomi Takahashi, Wim Waelput, and Yves Guisez.*** Leptin is an endogenous protective protein against the toxicity exerted by tumor necrosis factor

213 ***Correction***

Volume 189 No. 2 January 18, 1999

219 ***Teresa K. Tarrant, Phyllis B. Silver, Jennifer L. Wahlsten, Luiz V. Rizzo, Chi-Chao Chan, Barbara Wiggert, and Rachel R. Caspi.*** Interleukin 12 protects from a T helper type 1–mediated autoimmune disease, experimental autoimmune uveitis, through a mechanism involving interferon γ, nitric oxide, and apoptosis

231 ***Laurent Genestier, Shailaja Kasibhatla, Thomas Brunner, and Douglas R. Green.*** Transforming growth factor β1 inhibits Fas ligand expression and subsequent activation-induced cell death in T cells via downregulation of c-Myc

241 ***LiLi Tu, Martha D. Delahunty, Han Ding, Francis W. Luscinskas, and Thomas F. Tedder.*** The cutaneous lymphocyte antigen is an essential component of the L-selectin ligand induced on human vascular endothelial cells

253 ***Sabine H. Stotz, Luca Bolliger, Francis R. Carbone, and Ed Palmer.*** T cell receptor (TCR) antagonism without a negative signal: evidence from T cell hybridomas expressing two independent TCRs

265 ***Laila Girgis, Mark M. Davis, and Barbara Fazekas de St. Groth.*** The avidity spectrum of T cell receptor interactions accounts for T cell anergy in a double transgenic model

279 ***Benedict Seddon and Don Mason.*** Regulatory T cells in the control of autoimmunity: the essential role of transforming growth factor β and interleukin 4 in the prevention of autoimmune thyroiditis in rats by peripheral $CD4^+CD45RC^-$ cells and $CD4^+CD8^-$ thymocytes

289 ***Gretchen Bain, William J. Romanow, Karen Albers, Wendy L. Havran, and Cornelis Murre.*** Positive and negative regulation of V(D)J recombination by the E2A proteins

301 ***Harry Dolstra, Hanny Fredrix, Frans Maas, Pierre G. Coulie, Francis Brasseur, Ewald Mensink, Gosse J. Adema, Theo M. de Witte, Carl G. Figdor, and Elly van de Wiel-van Kemenade.*** A human minor histocompatibility antigen specific for B cell acute lymphoblastic leukemia

309 ***Hiromi Kubagawa, Ching-Cheng Chen, Le Hong Ho, Toshihide Shimada, Lanier Gartland, Charles Mashburn, Takahiro Uehara, Jeffrey V. Ravetch, and Max D. Cooper.*** Biochemical nature and cellular distribution of the paired immunoglobulin-like receptors, PIR-A and PIR-B

319 ***Fabien Agenès and António A. Freitas.*** Transfer of small resting B cells into immunodeficient hosts results in the selection of a self-renewing activated B cell population

331 ***Petter Höglund, Justine Mintern, Caroline Waltzinger, William Heath, Christophe Benoist, and Diane Mathis.*** Initiation of autoimmune diabetes by developmentally regulated presentation of islet cell antigens in the pancreatic lymph nodes

341 ***Marcelo Bozza, Abhay R. Satoskar, Guosheng Lin, Bao Lu, Alison A. Humbles, Craig Gerard, and John R. David.*** Targeted disruption of migration inhibitory factor gene reveals its critical role in sepsis

347 ***Hee-Sook Jun, Chang-Soon Yoon, Lori Zbytnuik, Nico van Rooijen, and Ji-Won Yoon.*** The role of macrophages in T cell–mediated autoimmune diabetes in nonobese diabetic mice

359 ***Rui Zhao, Douglas J. Loftus, Ettore Appella, and Edward J. Collins.*** Structural evidence of T cell xeno-reactivity in the absence of molecular mimicry

371 ***Armelle Regnault, Danielle Lankar, Valérie Lacabanne, Ana Rodriguez, Clotilde Théry, Maria Rescigno, Takashi Saito, Sjef Verbeek, Christian Bonnerot, Paola Ricciardi-Castagnoli, and Sebastian Amigorena.*** Fcγ receptor–mediated induction of dendritic cell maturation and major histocompatibility complex class I–restricted antigen presentation after immune complex internalization

381 ***Santos A. Susin, Hans K. Lorenzo, Naoufal Zamzami, Isabel Marzo, Catherine Brenner, Nathanael Larochette, Marie-Christine Prévost, Pedro M. Alzari, and Guido Kroemer.*** Mitochondrial release of caspase-2 and -9 during the apoptotic process

395 ***Shao Bo Su, Wanghua Gong, Ji-Liang Gao, Weiping Shen, Philip M. Murphy, Joost J. Oppenheim, and Ji Ming Wang.*** A seven-transmembrane, G protein–coupled receptor, FPRL1, mediates the chemotactic activity of serum amyloid A for human phagocytic cells

403 ***Vu N. Ngo, Heinrich Korner, Michael D. Gunn, Kerstin N. Schmidt, D. Sean Riminton, Max D. Cooper, Jeffrey L. Browning, Jonathon D. Sedgwick, and Jason G. Cyster.*** Lymphotoxin α/β and tumor necrosis factor are required for stromal cell expression of homing chemokines in B and T cell areas of the spleen

413 ***Toru Miyazaki, Yumiko Hirokami, Nobuyuki Matsuhashi, Hisakazu Takatsuka, and Makoto Naito.*** Increased susceptibility of thymocytes to apoptosis in mice lacking AIM, a novel murine macrophage-derived soluble factor belonging to the scavenger receptor cysteine-rich domain superfamily

423 ***Adelheid Cerwenka, Tammy M. Morgan, Allen G. Harmsen, and Richard W. Dutton.*** Migration kinetics and final destination of type 1 and type 2 CD8 effector cells predict protection against pulmonary virus infection

Brief Definitive Reports

435 ***Didier A. Mandelbrot, Alexander J. McAdam, and Arlene H. Sharpe.*** B7-1 or B7-2 is required to produce the lymphoproliferative phenotype in mice lacking cytotoxic T lymphocyte–associated antigen 4 (CTLA-4)

441 ***Simon C. Afford, Satinder Randhawa, Aristides G. Eliopoulos, Stefan G. Hubscher, Lawrence S. Young, and David H. Adams.*** CD40 activation induces apoptosis in cultured human hepatocytes via induction of cell surface Fas ligand expression and amplifies Fas-mediated hepatocyte death during allograft rejection

Volume 189 No. 3 February 1, 1999

Commentary

447 ***Jason G. Cyster.*** Chemokines and the homing of dendritic cells to the T cell areas of lymphoid organs

Articles

451 ***Michael D. Gunn, Shigeru Kyuwa, Carmen Tam, Terutaka Kakiuchi, Akio Matsuzawa, Lewis T. Williams, and Hideki Nakano.*** Mice lacking expression of secondary lymphoid organ chemokine have defects in lymphocyte homing and dendritic cell localization

461 ***Thomas C. Manning, Evan A. Parke, Luc Teyton, and David M. Kranz.*** Effects of complementarity determining region mutations on the affinity of an α/β T cell receptor: measuring the energy associated with CD4/CD8 repertoire skewing

471 ***Kalpit A. Vora, Kathleen M. Tumas-Brundage, Vicky M. Lentz, Aaron Cranston, Richard Fishel, and Tim Manser.*** Severe attenuation of the B cell immune response in Msh2-deficient mice

483 ***Chew Shun Chang, Laurent Brossay, Mitchell Kronenberg, and Kevin P. Kane.*** The murine nonclassical class I major histocompatibility complex–like CD1.1 molecule protects target cells from lymphokine-activated killer cell cytolysis

493 ***Mary C. Nakamura, Paul A. Linnemeyer, Eréne C. Niemi, Llewellyn H. Mason, John R. Ortaldo, James C. Ryan, and William E. Seaman.*** Mouse Ly-49D recognizes H-2D^{d} and activates natural killer cell cytotoxicity

501 ***Steven T. Park, Garry P. Nolan, and Xiao-Hong Sun.*** Growth inhibition and apoptosis due to restoration of E2A activity in T cell acute lymphoblastic leukemia cells

509 ***Jayant Thatte, Ayub Qadri, Caius Radu, and E. Sally Ward.*** Molecular requirements for T cell recognition by a major histocompatibility complex class II–restricted T cell receptor: the involvement of the fourth hypervariable loop of the Vα domain

521 ***Philippa Marrack, John Kappler, and Tom Mitchell.*** Type I interferons keep activated T cells alive

531 ***Umesh S. Deshmukh, Janet E. Lewis, Felicia Gaskin, Carol C. Kannapell, Samuel T. Waters, Ya-huan Lou, Kenneth S.K. Tung, and Shu Man Fu.*** Immune responses to Ro60 and its peptides in mice. I. The nature of the immunogen and endogenous autoantigen determine the specificities of the induced autoantibodies

541 ***Michael C. Braun, Jianping He, Chang-You Wu, and Brian L. Kelsall.*** Cholera toxin suppresses interleukin (IL)-12 production and IL-12 receptor β1 and β2 chain expression

553 ***Magnus Korsgren, Carl G.A. Persson, Frank Sundler, Torbjörn Bjerke, Tony Hansson, Benedict J. Chambers, Seokmann Hong, Luc Van Kaer, Hans-Gustaf Ljunggren, and Olle Korsgren.*** Natural killer cells determine development of allergen-induced eosinophilic airway inflammation in mice

563 ***James P. Di Santo, Iannis Aifantis, Eleftheria Rosmaraki, Corinne Garcia, Jacqueline Feinberg, Hans Jörg Fehling, Alain Fischer, Harald von Boehmer, and Benedita Rocha.*** The common cytokine receptor γ chain and the pre-T cell receptor provide independent but critically overlapping signals in early α/β T cell development

575 ***Chen-Lang Mok, Gabriel Gil-Gómez, Owen Williams, Mark Coles, Samir Taga, Mauro Tolaini, Trisha Norton, Dimitris Kioussis, and Hugh J.M. Brady.*** Bad can act as a key regulator of T cell apoptosis and T cell development

587 ***Roberto Maldonado-López, Thibaut De Smedt, Patrick Michel, Jacques Godfroid, Bernard Pajak, Carlo Heirman, Kris Thielemans, Oberdan Leo, Jacques Urbain, and Muriel Moser.*** CD8α^{+} and CD8α^{-} subclasses of dendritic cells direct the development of distinct T helper cells in vivo

Brief Definitive Reports

593 ***Adrian L. Smith and Barbara Fazekas de St. Groth.*** Antigen-pulsed CD8α^{+} dendritic cells generate an immune response after subcutaneous injection without homing to the draining lymph node

599 ***Simon A. Jones, Daniela Novick, Sankichi Horiuchi, Naoki Yamamoto, Alexander J. Szalai, and Gerald M. Fuller.*** C-reactive protein: a physiological activator of interleukin 6 receptor shedding

Volume 189 No. 4 February 15, 1999

Commentaries

605 ***Samuel D. Wright.*** Toll, a new piece in the puzzle of innate immunity

611 ***Federica Sallusto and Antonio Lanzavecchia.*** Mobilizing dendritic cells for tolerance, priming, and chronic inflammation

Articles

615 ***Salman T. Qureshi, Line Larivière, Gary Leveque, Sophie Clermont, Karen J. Moore, Philippe Gros, and Danielle Malo.*** Endotoxin-tolerant mice have mutations in Toll-like receptor 4 (*Tlr4*)

627 ***Caroline Robert, Robert C. Fuhlbrigge, J. David Kieffer, Seyoum Ayehunie, Richard O. Hynes, Guiying Cheng, Stephan Grabbe, Ulrich H. von Andrian, and Thomas S. Kupper.*** Interaction of dendritic cells with skin endothelium: a new perspective on immunosurveillance

637 ***M. Angela Montesano, Daniel G. Colley, Silvana Eloi-Santos, George L. Freeman, Jr., and W. Evan Secor.*** Neonatal idiotypic exposure alters subsequent cytokine, pathology, and survival patterns in experimental *Schistosoma mansoni* infections

647 ***Arturo Centurion-Lara, Christa Castro, Lynn Barrett, Caroline Cameron, Maryam Mostowfi, Wesley C. Van Voorhis, and Sheila A. Lukehart.*** *Treponema pallidum* major sheath protein homologue Tpr K is a target of opsonic antibody and the protective immune response

657 ***Ji-Liang Gao, Eric J. Lee, and Philip M. Murphy.*** Impaired antibacterial host defense in mice lacking the *N*-formylpeptide receptor

663 ***David A. Leib, Travis E. Harrison, Kathleen M. Laslo, Michael A. Machalek, Nathaniel J. Moorman, and Herbert W. Virgin.*** Interferons regulate the phenotype of wild-type and mutant herpes simplex viruses in vivo

673 ***Yasmin Banu and Takeshi Watanabe.*** Augmentation of antigen receptor–mediated responses by histamine H1 receptor signaling

683 ***Mirjam H.A. Hermans, Claudia Antonissen, Alister C. Ward, Angelique E.M. Mayen, Rob E. Ploemacher, and Ivo P. Touw.*** Sustained receptor activation and hyperproliferation in response to granulocyte colony-stimulating factor (G-CSF) in mice with a severe congenital neutropenia/acute myeloid leukemia–derived mutation in the G-CSF receptor gene

693 ***Taila Mattern, Gundolf Girroleit, Hans-Dieter Flad, Ernst T. Rietschel, and Artur J. Ulmer.*** $CD34^+$ hematopoietic stem cells exert accessory function in lipopolysaccharide-induced T cell stimulation and CD80 expression on monocytes

701 ***Dirk H. Busch and Eric G. Pamer.*** T cell affinity maturation by selective expansion during infection

711 ***Maki Ozawa, Katalin Ferenczi, Toyoko Kikuchi, Irma Cardinale, Lisa M. Austin, Todd R. Coven, Lauren H. Burack, and James G. Krueger.*** 312-nanometer ultraviolet B light (narrow-band UVB) induces apoptosis of T cells within psoriatic lesions

719 ***Costantino Iadecola, Cindy A. Salkowski, Fangyi Zhang, Tracy Aber, Masao Nagayama, Stefanie N. Vogel, and M. Elizabeth Ross.*** The transcription factor interferon regulatory factor 1 is expressed after cerebral ischemia and contributes to ischemic brain injury

Brief Definitive Reports

729 ***Susan K. Nilsson, Mark S. Dooner, Heinz-Ulrich Weier, Baruch Frenkel, Jane B. Lian, Gary S. Stein, and Peter J. Quesenberry.*** Cells capable of bone production engraft from whole bone marrow transplants in nonablated mice

735 ***David Allman, Jin Li, and Richard R. Hardy.*** Commitment to the B lymphoid lineage occurs before D_H-J_H recombination

741 ***Henry W. Murray and Carl F. Nathan.*** Macrophage microbicidal mechanisms in vivo: reactive nitrogen versus oxygen intermediates in the killing of intracellular visceral *Leishmania donovani*

747 ***J. Mark Hexham, Kendra D. White, Leonidas N. Carayannopoulos, Wlodeck Mandecki, Renee Brisette, Yih-Sheng Yang, and J. Donald Capra.*** A human immunoglobulin (Ig)A Cα3 domain motif directs polymeric Ig receptor–mediated secretion

Volume 189 No. 5 March 1, 1999

Commentary

753 ***René E.M. Toes, Ferry Ossendorp, Rienk Offringa, and Cornelis J.M. Melief.*** CD4 T cells and their role in antitumor immune responses

Articles

757 ***Rembert Pieper, Robert E. Christian, Monica I. Gonzales, Michael I. Nishimura, Gaorav Gupta, Robert E. Settlage, Jeffrey Shabanowitz, Steven A. Rosenberg, Donald F. Hunt, and Suzanne L. Topalian.*** Biochemical identification of a mutated human melanoma antigen recognized by $CD4^+$ T cells

767 ***Pascal Chaux, Valérie Vantomme, Vincent Stroobant, Kris Thielemans, Jurgen Corthals, Rosalie Luiten, Alexander M.M. Eggermont, Thierry Boon, and Pierre van der Bruggen.*** Identification of MAGE-3 epitopes presented by HLA-DR molecules to $CD4^+$ T lymphocytes

779 ***Jeanne Kehren, Cyril Desvignes, Maya Krasteva, Marie-Thérèse Ducluzeau, Olga Assossou, Françoise Horand, Michael Hahne, David Kägi, Dominique Kaiserlian, and Jean-François Nicolas.*** Cytotoxicity is mandatory for $CD8^+$ T cell–mediated contact hypersensitivity

787 ***Claudia Cantoni, Cristina Bottino, Massimo Vitale, Anna Pessino, Raffaella Augugliaro, Angela Malaspina, Silvia Parolini, Lorenzo Moretta, Alessandro Moretta, and Roberto Biassoni.*** NKp44, a triggering receptor involved in tumor cell lysis by activated human natural killer cells, is a novel member of the immunoglobulin superfamily

797 ***Sreyashi Basu and Pramod K. Srivastava.*** Calreticulin, a peptide-binding chaperone of the endoplasmic reticulum, elicits tumor- and peptide-specific immunity

803 ***Thomas Schüler, Zhihai Qin, Sabrina Ibe, Nancy Noben-Trauth, and Thomas Blankenstein.*** T helper cell type 1–associated and cytotoxic T lymphocyte–mediated tumor immunity is impaired in interleukin 4–deficient mice

811 ***Supria Sarma, Yong Guo, Yannik Guilloux, Cheng Lee, Xue-Feng Bai, and Yang Liu.*** Cytotoxic T lymphocytes to an unmutated tumor rejection antigen P1A: normal development but restrained effector function in vivo

821 ***Marina Cella, Mariolina Salio, Yoichi Sakakibara, Hanno Langen, Ilkka Julkunen, and Antonio Lanzavecchia.*** Maturation, activation, and protection of dendritic cells induced by double-stranded RNA

831 ***Samantha Gruenheid, François Canonne-Hergaux, Susan Gauthier, David J. Hackam, Sergio Grinstein, and Philippe Gros.*** The iron transport protein NRAMP2 is an integral membrane glycoprotein that colocalizes with transferrin in recycling endosomes

843 ***Uwe Schönbeck, François Mach, Galina K. Sukhova, Elizabeth Atkinson, Ethan Levesque, Michael Herman, Pierre Graber, Paul Basset, and Peter Libby.*** Expression of stromelysin-3 in atherosclerotic lesions: regulation via CD40–CD40 ligand signaling in vitro and in vivo

855 ***Pandelakis A. Koni and Richard A. Flavell.*** Lymph node germinal centers form in the absence of follicular dendritic cell networks

Brief Definitive Reports

865 ***Martin Kerschensteiner, Eike Gallmeier, Lüder Behrens, Vivian Vargas Leal, Thomas Misgeld, Wolfgang E.F. Klinkert, Roland Kolbeck, Edmund Hoppe, Rosa-Laura Oropeza-Wekerle, Ilse Bartke, Christine Stadelmann, Hans Lassmann, Hartmut Wekerle, and Reinhard Hohlfeld.*** Activated human T cells, B cells, and monocytes produce brain-derived neurotrophic factor in vitro and in inflammatory brain lesions: a neuroprotective role of inflammation?

871 ***Simona Manici, Tiziana Sturniolo, Maria Adele Imro, Juergen Hammer, Francesco Sinigaglia, Christoph Noppen, Giulio Spagnoli, Benedetta Mazzi, Matteo Bellone, Paolo Dellabona, and Maria Pia Protti.*** Melanoma cells present a MAGE-3 epitope to $CD4^+$ cytotoxic T cells in association with histocompatibility leukocyte antigen DR11

877 ***Benedict Seddon and Don Mason.*** Peripheral autoantigen induces regulatory T cells that prevent autoimmunity

Volume 189 No. 6 March 15, 1999

883 ***Johan K. Sandberg, Klas Kärre, and Rickard Glas.*** Recognition of the major histocompatibility complex restriction element modulates $CD8^+$ T cell specificity and compensates for loss of T cell receptor contacts with the specific peptide

895 ***Danila Valmori, Uzi Gileadi, Catherine Servis, P. Rod Dunbar, Jean-Charles Cerottini, Pedro Romero, Vincenzo Cerundolo, and Frédéric Lévy.*** Modulation of proteasomal activity required for the generation of a cytotoxic T lymphocyte–defined peptide derived from the tumor antigen MAGE-3

907 ***Christopher Mehlin, Catherine M. Headley, and Seymour J. Klebanoff.*** An inflammatory polypeptide complex from *Staphylococcus epidermidis*: isolation and characterization

919 ***C. Stremmel, E.A. Greenfield, E. Howard, G.J. Freeman, and V.K. Kuchroo.*** B7-2 expressed on EL4 lymphoma suppresses antitumor immunity by an interleukin 4–dependent mechanism

931 ***Rosario Scalia, Valerie E. Armstead, Alexander G. Minchenko, and Allan M. Lefer.*** Essential role of P-selectin in the initiation of the inflammatory response induced by hemorrhage and reinfusion

939 ***Ali Hafezi-Moghadam and Klaus Ley.*** Relevance of L-selectin shedding for leukocyte rolling in vivo

949 ***Thomas J. Schneider, Gavin M. Fischer, Terrence J. Donohoe, Thomas P. Colarusso, and Thomas L. Rothstein.*** A novel gene coding for a Fas apoptosis inhibitory molecule (FAIM) isolated from inducibly Fas-resistant B lymphocytes

957 ***Anne Hakem, Takehiko Sasaki, Ivona Kozieradzki, and Josef M. Penninger.*** The cyclin-dependent kinase Cdk2 regulates thymocyte apoptosis

969 ***John T. Chang, Ethan M. Shevach, and Benjamin M. Segal.*** Regulation of interleukin (IL)-12 receptor β2 subunit expression by endogenous IL-12: a critical step in the differentiation of pathogenic autoreactive T cells

979 ***Jun-ichi Masuyama, Taku Yoshio, Kenichi Suzuki, Seiichi Kitagawa, Masahiro Iwamoto, Takeshi Kamimura, Daisuke Hirata, Akira Takeda, Shogo Kano, and Seiji Minota.*** Characterization of the 4C8 antigen involved in transendothelial migration of $CD26^{hi}$ T cells after tight adhesion to human umbilical vein endothelial cell monolayers

991 ***Xia Jin, Daniel E. Bauer, Sarah E. Tuttleton, Sharon Lewin, Agegnehu Gettie, James Blanchard, Craig E. Irwin, Jeffrey T. Safrit, John Mittler, Leor Weinberger, Leondios G. Kostrikis, Linqi Zhang, Alan S. Perelson, and David D. Ho.*** Dramatic rise in plasma viremia after $CD8^+$ T cell depletion in simian immunodeficiency virus–infected macaques

Brief Definitive Reports

999 ***Fateh Ouaaz, Ming Li, and Amer A. Beg.*** A critical role for the RelA subunit of nuclear factor κB in regulation of multiple immune-response genes and in Fas-induced cell death

1005 ***Daniel J. Cua, Herve Groux, David R. Hinton, Stephen A. Stohlman, and Robert L. Coffman.*** Transgenic interleukin 10 prevents induction of experimental autoimmune encephalomyelitis

1011 ***Gregory D. Sempowski, David M. Lee, Richard M. Scearce, Dhavalkumar D. Patel, and Barton F. Haynes.*** Resistance of CD7-deficient mice to lipopolysaccharide-induced shock syndromes

Volume 189 No. 7 April 5, 1999

Commentaries

1017 ***E. Allison Green and Richard A. Flavell.*** TRANCE–RANK, a new signal pathway involved in lymphocyte development and T cell activation

1021 ***Lawrence Steinman.*** Absence of "original antigenic sin" in autoimmunity provides an unforeseen platform for immune therapy

Articles

1025 ***Martin F. Bachmann, Brian R. Wong, Régis Josien, Ralph M. Steinman, Annette Oxenius, and Yongwon Choi.*** TRANCE, a tumor necrosis factor family member critical for CD40 ligand–independent T helper cell activation

1033 ***Vincent K. Tuohy, Min Yu, Ling Yin, Julie A. Kawczak, and R. Philip Kinkel.*** Spontaneous regression of primary autoreactivity during chronic progression of experimental autoimmune encephalomyelitis and multiple sclerosis

1043 ***Valérie Lallemand-Breitenbach, Marie-Claude Guillemin, Anne Janin, Marie-Thérèse Daniel, Laurent Degos, Scott C. Kogan, J. Michael Bishop, and Hugues de Thé.*** Retinoic acid and arsenic synergize to eradicate leukemic cells in a mouse model of acute promyelocytic leukemia

1053 ***Syamasundar V. Pakala, Marylee Chivetta, Colleen B. Kelly, and Jonathan D. Katz.*** In autoimmune diabetes the transition from benign to pernicious insulitis requires an islet cell response to tumor necrosis factor α

1063 ***Takahiro Maeda, Yasuaki Yamada, Ryozou Moriuchi, Kazuyuki Sugahara, Kazuto Tsuruda, Tatsurou Joh, Sunao Atogami, Kunihiro Tsukasaki, Masao Tomonaga, and Shimeru Kamihira.*** Fas gene mutation in the progression of adult T cell leukemia

1073 ***Defu Zeng, David Lewis, Sussan Dejbakhsh-Jones, Fengshuo Lan, Marcos Garcia-Ojeda, Richard Sibley, and Samuel Strober.*** Bone marrow NK1.1$^-$ and NK1.1$^+$ T cells reciprocally regulate acute graft versus host disease

1083 ***George S. Yap and Alan Sher.*** Effector cells of both nonhemopoietic and hemopoietic origin are required for interferon (IFN)-γ– and tumor necrosis factor (TNF)-α–dependent host resistance to the intracellular pathogen, *Toxoplasma gondii*

1093 ***Sumati Rajagopalan and Eric O. Long.*** A human histocompatibility leukocyte antigen (HLA)-G–specific receptor expressed on all natural killer cells

1101 ***Jian-Ying Zhang, Edward K.L. Chan, Xuan-Xian Peng, and Eng M. Tan.*** A novel cytoplasmic protein with RNA-binding motifs is an autoantigen in human hepatocellular carcinoma

1111 ***Sabine Pingel, Pascal Launois, Deborah J. Fowell, Christoph W. Turck, Scott Southwood, Alessandro Sette, Nicolas Glaichenhaus, Jacques A. Louis, and Richard M. Locksley.*** Altered ligands reveal limited plasticity in the T cell response to a pathogenic epitope

1121 ***Hidemitsu Kitamura, Kenji Iwakabe, Takashi Yahata, Shin-ichiro Nishimura, Akio Ohta, Yasushi Ohmi, Marimo Sato, Kazuyoshi Takeda, Ko Okumura, Luc Van Kaer, Tetsu Kawano, Masaru Taniguchi, and Takashi Nishimura.*** The natural killer T (NKT) cell ligand α-galactosylceramide demonstrates its immunopotentiating effect by inducing interleukin (IL)-12 production by dendritic cells and IL-12 receptor expression on NKT cells

1129 ***Palanisamy Kanakaraj, Karen Ngo, Ying Wu, Ana Angulo, Peter Ghazal, Crafford A. Harris, John J. Siekierka, Per A. Peterson, and Wai-Ping Fung-Leung.*** Defective interleukin (IL)-18–mediated natural killer and T helper cell type 1 responses in IL-1 receptor–associated kinase (IRAK)-deficient mice

1139 ***Mickie Bhatia, Dominique Bonnet, Dongmei Wu, Barbara Murdoch, Jeff Wrana, Lisa Gallacher, and John E. Dick.*** Bone morphogenetic proteins regulate the developmental program of human hematopoietic stem cells

1149 ***David S.J. Allan, Marco Colonna, Lewis L. Lanier, Tatyana D. Churakova, John S. Abrams, Shirley A. Ellis, Andrew J. McMichael, and Veronique M. Braud.*** Tetrameric complexes of human histocompatibility leukocyte antigen (HLA)-G bind to peripheral blood myelomonocytic cells

Brief Definitive Reports

1157 ***Kathy D. McCoy, Ian F. Hermans, J. Henry Fraser, Graham Le Gros, and Franca Ronchese.*** Cytotoxic T lymphocyte–associated antigen 4 (CTLA-4) can regulate dendritic cell–induced activation and cytotoxicity of $CD8^+$ T cells independently of $CD4^+$ T cell help

1163 ***Jennifer M. Ashe, David L. Wiest, Ryo Abe, and Alfred Singer.*** ZAP-70 protein promotes tyrosine phosphorylation of T cell receptor signaling motifs (ITAMs) in immature $CD4^+8^+$ thymocytes with limiting $p56^{lck}$

Volume 189 No. 8 April 19, 1999

1169 ***Taeko Dohi, Kohtaro Fujihashi, Paul D. Rennert, Koichi Iwatani, Hiroshi Kiyono, and Jerry R. McGhee.*** Hapten-induced colitis is associated with colonic patch hypertrophy and T helper cell 2–type responses

1181 ***Anne Marie-Cardine, Henning Kirchgessner, Eddy Bruyns, Andrej Shevchenko, Matthias Mann, Frank Autschbach, Sheldon Ratnofsky, Stefan Meuer, and Burkhart Schraven.*** SHP2-interacting transmembrane adaptor protein (SIT), a novel disulfide-linked dimer regulating human T cell activation

1195 ***Kimberly A. Sabelko-Downes, Anne H. Cross, and John H. Russell.*** Dual role for Fas ligand in the initiation of and recovery from experimental allergic encephalomyelitis

1207 ***T. Tristan Brandhorst, Marcel Wüthrich, Thomas Warner, and Bruce Klein.*** Targeted gene disruption reveals an adhesin indispensable for pathogenicity of *Blastomyces dermatitidis*

1217 ***Michel Léonetti, Jérome Galon, Robert Thai, Catherine Sautès-Fridman, Gervaise Moine, and André Ménez.*** Presentation of antigen in immune complexes is boosted by soluble bacterial immunoglobulin binding proteins

1229 ***Malgorzata Nieborowska-Skorska, Mariusz A. Wasik, Artur Slupianek, Paolo Salomoni, Toshio Kitamura, Bruno Calabretta, and Tomasz Skorski.*** Signal transducer and activator of transcription (STAT)5 activation by BCR/ABL is dependent on intact src homology (SH)3 and SH2 domains of BCR/ABL and is required for leukemogenesis

1243 ***Che-Leung Law, Maria K. Ewings, Preet M. Chaudhary, Sasha A. Solow, Theodore J. Yun, Aaron J. Marshall, Leroy Hood, and Edward A. Clark.*** GrpL, a Grb2-related adaptor protein, interacts with SLP-76 to regulate nuclear factor of activated T cell activation

1255 ***Steffen Massberg, Matthias Sausbier, Peter Klatt, Markus Bauer, Alexander Pfeifer, Wolfgang Siess, Reinhard Fässler, Peter Ruth, Fritz Krombach, and Franz Hofmann.*** Increased adhesion and aggregation of platelets lacking cyclic guanosine 3′,5′-monophosphate kinase I

1265 ***Daniel M. Davis, Ofer Mandelboim, Isabel Luque, Eishi Baba, Jonathan Boyson, and Jack L. Strominger.*** The transmembrane sequence of human histocompatibility leukocyte antigen (HLA)-C as a determinant in inhibition of a subset of natural killer cells

1275 ***Pedro J. Ruiz, Hideki Garren, David L. Hirschberg, Annette M. Langer-Gould, Mia Levite, Marcela V. Karpuj, Scott Southwood, Alessandro Sette, Paul Conlon, and Lawrence Steinman.*** Microbial epitopes act as altered peptide ligands to prevent experimental autoimmune encephalomyelitis

1285 ***Laurie L. Hill, Vijay K. Shreedhar, Margaret L. Kripke, and Laurie B. Owen-Schaub.*** A critical role for Fas ligand in the active suppression of systemic immune responses by ultraviolet radiation

1295 ***Yung Chang, Melvin J. Bosma, and Gayle C. Bosma.*** Extended duration of DH–JH rearrangement in immunoglobulin heavy chain transgenic mice: implications for regulation of allelic exclusion

1307 ***Theresa L. O'Keefe, Gareth T. Williams, Facundo D. Batista, and Michael S. Neuberger.*** Deficiency in CD22, a B cell–specific inhibitory receptor, is sufficient to predispose to development of high affinity autoantibodies

1315 ***Leslie P. Cousens, Ron Peterson, Sang Hsu, Andrew Dorner, John D. Altman, Rafi Ahmed, and Christine A. Biron.*** Two roads diverged: interferon α/β– and interleukin 12–mediated pathways in promoting T cell interferon γ responses during viral infection

1329 ***Gaël Dulude, Denis-Claude Roy, and Claude Perreault.*** The effect of graft-versus-host disease on T cell production and homeostasis

1343 ***Thomas S. Griffith, Steven R. Wiley, Marek Z. Kubin, Lisa M. Sedger, Charles R. Maliszewski, and Neil A. Fanger.*** Monocyte-mediated tumoricidal activity via the tumor necrosis factor–related cytokine, TRAIL

Brief Definitive Report

1355 ***Laura L. Carter and Kenneth M. Murphy.*** Lineage-specific requirement for signal transducer and activator of transcription (Stat)4 in interferon γ production from $CD4^+$ versus $CD8^+$ T cells

1361 ***Correction***

Volume 189 No. 9 May 3, 1999

1363 ***David H. Munn, Ebrahim Shafizadeh, John T. Attwood, Igor Bondarev, Achal Pashine, and Andrew L. Mellor.*** Inhibition of T cell proliferation by macrophage tryptophan catabolism

1373 ***Thomas Noll, Gernold Wozniak, Karin McCarson, Amir Hajimohammad, Hubert J. Metzner, Javier Inserte, Wolfgang Kummer, Friedrich Wilhelm Hehrlein, and Hans Michael Piper.*** Effect of factor XIII on endothelial barrier function

1383 ***Hiroshi Asada, Naoto Ishii, Yoshiteru Sasaki, Kazuhiro Endo, Hirotake Kasai, Nobuyuki Tanaka, Toshikazu Takeshita, Shigeru Tsuchiya, Tasuke Konno, and Kazuo Sugamura.*** Grf40, a novel Grb2 family member, is involved in T cell signaling through interaction with SLP-76 and LAT

1391 ***Yu Sun and Edward A. Clark.*** Expression of the *c-myc* proto-oncogene is essential for HIV-1 infection in activated T cells

1399 ***Shaoguang Li, Robert L. Ilaria, Jr., Ryan P. Million, George Q. Daley, and Richard A. Van Etten.*** The P190, P210, and P230 forms of the *BCR/ABL* oncogene induce a similar chronic myeloid leukemia–like syndrome in mice but have different lymphoid leukemogenic activity

1413 ***Anne Vink, Guy Warnier, Frank Brombacher, and Jean-Christophe Renauld.*** Interleukin 9–induced in vivo expansion of the B-1 lymphocyte population

1425 ***Günter Harth and Marcus A. Horwitz.*** An inhibitor of exported *Mycobacterium tuberculosis* glutamine synthetase selectively blocks the growth of pathogenic mycobacteria in axenic culture and in human monocytes: extracellular proteins as potential novel drug targets

1437 ***Rajiv Y. Chandawarkar, Mihir S. Wagh, and Pramod K. Srivastava.*** The dual nature of specific immunological activity of tumor-derived gp96 preparations

1443 ***Laurentiu Cocea, Annie De Smet, Mahasti Saghatchian, Simon Fillatreau, Laurent Ferradini, Stéphane Schurmans, Jean-Claude Weill, and Claude-Agnès Reynaud.*** A targeted deletion of a region upstream from the J_κ cluster impairs κ chain rearrangement in cis in mice and in the 103/bcl2 cell line

1451 ***Nobuhiko Kayagaki, Noriko Yamaguchi, Masafumi Nakayama, Hiroshi Eto, Ko Okumura, and Hideo Yagita.*** Type I interferons (IFNs) regulate tumor necrosis factor–related apoptosis-inducing ligand (TRAIL) expression on human T cells: a novel mechanism for the antitumor effects of type I IFNs

1461 ***Rodolphe Guinamard, Nathalie Signoret, Ishiai Masamichi, Mark Marsh, Tomohiro Kurosaki, and Jeffrey V. Ravetch.*** B cell antigen receptor engagement inhibits stromal cell–derived factor (SDF)-1α chemotaxis and promotes protein kinase C (PKC)-induced internalization of CXCR4

1467 ***Cornelia Berlin-Rufenach, Florian Otto, Meg Mathies, Juergen Westermann, Michael J. Owen, Alf Hamann, and Nancy Hogg.*** Lymphocyte migration in lymphocyte function-associated antigen (LFA)-1–deficient mice

1479 ***Li-Mei Chen, Shubha Bagrodia, Richard A. Cerione, and Jorge E. Galán.*** Requirement of p21-activated kinase (PAK) for *Salmonella typhimurium*–induced nuclear responses

1489 ***Xiao-Ning Xu, Bernd Laffert, Gavin R. Screaton, Michael Kraft, Dietlinde Wolf, Waldemar Kolanus, Juthathip Mongkolsapay, Andrew J. McMichael, and Andreas S. Baur.*** Induction of Fas ligand expression by HIV involves the interaction of Nef with the T cell receptor ζ chain

1497 ***Aiyappa Palecanda, Joseph Paulauskis, Eiman Al-Mutairi, Amy Imrich, Guozhong Qin, Hiroshi Suzuki, Tatsuhiko Kodama, Karl Tryggvason, Henry Koziel, and Lester Kobzik.*** Role of the scavenger receptor MARCO in alveolar macrophage binding of unopsonized environmental particles

Brief Definitive Reports

1507 ***Christina Mayer, Ulrich Appenzeller, Heike Seelbach, Gernot Achatz, Hannes Oberkofler, Michael Breitenbach, Kurt Blaser, and Reto Crameri.*** Humoral and cell-mediated autoimmune reactions to human acidic ribosomal P_2 protein in individuals sensitized to *Aspergillus fumigatus* P_2 protein

1513 ***Lars Nitschke, Helen Floyd, David J.P. Ferguson, and Paul R. Crocker.*** Identification of CD22 ligands on bone marrow sinusoidal endothelium implicated in CD22-dependent homing of recirculating B cells

1519 ***Correction***

Volume 189 No. 10 May 17, 1999

1521 ***Martin F. Bachmann, Awen Gallimore, Susanne Linkert, Vincenzo Cerundolo, Antonio Lanzavecchia, Manfred Kopf, and Antonella Viola.*** Developmental regulation of Lck targeting to the CD8 coreceptor controls signaling in naive and memory T cells

1531 ***Calvin B. Williams, Deborah L. Engle, Gilbert J. Kersh, J. Michael White, and Paul M. Allen.*** A kinetic threshold between negative and positive selection based on the longevity of the T cell receptor–ligand complex

1545 ***Richard D. Hockett, J. Michael Kilby, Cynthia A. Derdeyn, Michael S. Saag, Michael Sillers, Kathleen Squires, Scott Chiz, Martin A. Nowak, George M. Shaw, and R. Pat Bucy.*** Constant mean viral copy number per infected cell in tissues regardless of high, low, or undetectable plasma HIV RNA

1555 ***Luca G. Guidotti, Persephone Borrow, Amy Brown, Heike McClary, Rick Koch, and Francis V. Chisari.*** Noncytopathic clearance of lymphocytic choriomeningitis virus from the hepatocyte

1565 ***Grahame J. McKenzie, Padraic G. Fallon, Claire L. Emson, Richard K. Grencis, and Andrew N.J. McKenzie.*** Simultaneous disruption of interleukin (IL)-4 and IL-13 defines individual roles in T helper cell type 2–mediated responses

1573 ***Azusa Ujike, Yoko Ishikawa, Masao Ono, Takae Yuasa, Tadashi Yoshino, Manabu Fukumoto, Jeffrey V. Ravetch, and Toshiyuki Takai.*** Modulation of immunoglobulin (Ig)E-mediated systemic anaphylaxis by low-affinity Fc receptors for IgG

1581 ***Laura Tonnetti, Maria-Concetta Veri, Ezio Bonvini, and Luciano D'Adamio.*** A role for neutral sphingomyelinase-mediated ceramide production in T cell receptor–induced apoptosis and mitogen-activated protein kinase–mediated signal transduction

1591 ***Philippe Bousso, Jean-Pierre Levraud, Philippe Kourilsky, and Jean-Pierre Abastado.*** The composition of a primary T cell response is largely determined by the timing of recruitment of individual T cell clones

1601 ***Catherine Robin, Françoise Pflumio, William Vainchenker, and Laure Coulombel.*** Identification of lymphomyeloid primitive progenitor cells in fresh human cord blood and in the marrow of non-obese diabetic–severe combined immunodeficient (NOD-SCID) mice transplanted with human $CD34^+$ cord blood cells

1611 ***Andrei V. Popov, Xiangang Zou, Jian Xian, Ian C. Nicholson, and Marianne Brüggemann.*** A human immunoglobulin λ locus is similarly well expressed in mice and humans

1621 ***George T. De Sanctis, James A. MacLean, Kaoru Hamada, Sanjay Mehta, Jeremy A. Scott, Aiping Jiao, Chandri N. Yandava, Lester Kobzik, Walter W. Wolyniec, Attila J. Fabian, Changaram S. Venugopal, Hartmut Grasemann, Paul L. Huang, and Jeffrey M. Drazen.*** Contribution of nitric oxide synthases 1, 2, and 3 to airway hyperresponsiveness and inflammation in a murine model of asthma

1631 ***Leo Lefrançois, Christina M. Parker, Sara Olson, Werner Muller, Norbert Wagner, and Lynn Puddington.*** The role of β7 integrins in CD8 T cell trafficking during an antiviral immune response

1639 ***Owen T.M. Chan, Lynn G. Hannum, Ann M. Haberman, Michael P. Madaio, and Mark J. Shlomchik.*** A novel mouse with B cells but lacking serum antibody reveals an antibody-independent role for B cells in murine lupus

1649 ***Dana Baram, Roberto Adachi, Ora Medalia, Michael Tuvim, Burton F. Dickey, Yoseph A. Mekori, and Ronit Sagi-Eisenberg.*** Synaptotagmin II negatively regulates Ca^{2+}-triggered exocytosis of lysosomes in mast cells

1659 ***Rong-Fu Wang, Xiang Wang, and Steven A. Rosenberg.*** Identification of a novel major histocompatibility complex class II–restricted tumor antigen resulting from a chromosomal rearrangement recognized by $CD4^+$ T cells

1669 ***Boris Reizis and Philip Leder.*** Expression of the mouse pre-T cell receptor α gene is controlled by an upstream region containing a transcriptional enhancer

Brief Definitive Report

1679 ***Sylvie Degermann, Giuseppina Sollami, and Klaus Karjalainen.*** T cell receptor β chain lacking the large solvent-exposed Cβ FG loop supports normal α/β T cell development and function in transgenic mice

Volume 189 No. 11 June 7, 1999

1685 ***Debra A. Tanguay, Thomas P. Colarusso, Sandra Pavlovic, Macarena Irigoyen, Robert G. Howard, Jiri Bartek, Thomas C. Chiles, and Thomas L. Rothstein.*** Early induction of cyclin D2 expression in phorbol ester–responsive B-1 lymphocytes

1691 ***Noboru Motoyama, Tohru Kimura, Tomomi Takahashi, Takeshi Watanabe, and Toru Nakano.*** *bcl-x* prevents apoptotic cell death of both primitive and definitive erythrocytes at the end of maturation

1699 ***Nobushige Yamashita, Shiro Hoshida, Kinya Otsu, Michio Asahi, Tsunehiko Kuzuya, and Masatsugu Hori.*** Exercise provides direct biphasic cardioprotection via manganese superoxide dismutase activation

1707 ***Eberhard Hildt and Stefanie Oess.*** Identification of Grb2 as a novel binding partner of tumor necrosis factor (TNF) receptor I

1715 ***H. Craig Morton, Ger van Zandbergen, Cees van Kooten, Chris J. Howard, Jan G.J. van de Winkel, and Per Brandtzaeg.*** Immunoglobulin-binding sites of human FcαRI (CD89) and bovine Fcγ2R are located in their membrane-distal extracellular domains

1723 ***Dorothee H.F. Hausmann, Bei Yu, Stefan Hausmann, and Kai W. Wucherpfennig.*** pH-dependent peptide binding properties of the type I diabetes–associated I-A^{g7} molecule: rapid release of CLIP at an endosomal pH

1735 ***Derya Unutmaz, Vineet N. KewalRamani, Shana Marmon, and Dan R. Littman.*** Cytokine signals are sufficient for HIV-1 infection of resting human T lymphocytes

1747 ***Pascal Schneider, Fabienne MacKay, Véronique Steiner, Kay Hofmann, Jean-Luc Bodmer, Nils Holler, Christine Ambrose, Pornsri Lawton, Sarah Bixler, Hans Acha-Orbea, Danila Valmori, Pedro Romero, Christiane Werner-Favre, Rudolph H. Zubler, Jeffrey L. Browning, and Jürg Tschopp.*** BAFF, a novel ligand of the tumor necrosis factor family, stimulates B cell growth

1757 ***Weisan Chen, Jonathan W. Yewdell, Rodney L. Levine, and Jack R. Bennink.*** Modification of cysteine residues in vitro and in vivo affects the immunogenicity and antigenicity of major histocompatibility complex class I–restricted viral determinants

1765 ***Huijuan Xie, Yaw-Chyn Lim, Francis W. Luscinskas, and Andrew H. Lichtman.*** Acquisition of selectin binding and peripheral homing properties by $CD4^+$ and $CD8^+$ T cells

1777 ***Rintaro Shimazu, Sachiko Akashi, Hirotaka Ogata, Yoshinori Nagai, Kenji Fukudome, Kensuke Miyake, and Masao Kimoto.*** MD-2, a molecule that confers lipopolysaccharide responsiveness on Toll-like receptor 4

1783 ***Riccardo Bertini, O.M. Zack Howard, Hui-Fang Dong, Joost J. Oppenheim, Cinzia Bizzarri, Rita Sergi, Gianfranco Caselli, Sabrina Pagliei, Brie Romines, Jennifer A. Wilshire, Manuela Mengozzi, Hajime Nakamura, Junji Yodoi, Klas Pekkari, Ramanathan Gurunath, Arne Holmgren, Leonore A. Herzenberg, Leonard A. Herzenberg, and Pietro Ghezzi.*** Thioredoxin, a redox enzyme released in infection and inflammation, is a unique chemoattractant for neutrophils, monocytes, and T cells

1791 ***Constantino López-Macías, Ulrich Kalinke, Marilia Cascalho, Matthias Wabl, Hans Hengartner, Rolf M. Zinkernagel, and Alain Lamarre.*** Secondary rearrangements and hypermutation generate sufficient B cell diversity to mount protective antiviral immunoglobulin responses

1799 ***Laura Mandik-Nayak, Su-jean Seo, Caroline Sokol, Kathryn M. Potts, Anh Bui, and Jan Erikson.*** MRL-*lpr/lpr* mice exhibit a defect in maintaining developmental arrest and follicular exclusion of anti–double-stranded DNA B cells

1815 ***Stefanie Dimmeler, Kristin Breitschopf, Judith Haendeler, and Andreas M. Zeiher.*** Dephosphorylation targets Bcl-2 for ubiquitin-dependent degradation: a link between the apoptosome and the proteasome pathway

1823 ***Louise J. McHeyzer-Williams, Joanne Fanelli Panus, John A. Mikszta, and Michael G. McHeyzer-Williams.*** Evolution of antigen-specific T cell receptors in vivo: preimmune and antigen-driven selection of preferred complementarity-determining region 3 (CDR3) motifs

1839 ***Zhi-Wei Li, Wenming Chu, Yinling Hu, Mireille Delhase, Tom Deerinck, Mark Ellisman, Randall Johnson, and Michael Karin.*** The IKKβ subunit of IκB kinase (IKK) is essential for nuclear factor κB activation and prevention of apoptosis

Brief Definitive Report

1847 ***Julie A. Lekstrom-Himes, Susan E. Dorman, Piroska Kopar, Steven M. Holland, and John I. Gallin.*** Neutrophil-specific granule deficiency results from a novel mutation with loss of function of the transcription factor CCAAT/enhancer binding protein ϵ

1853 ***Correction***

Volume 189 No. 12 June 21, 1999

1855 ***Concetta Liberatore, Marusca Capanni, Nicola Albi, Isabella Volpi, Elena Urbani, Loredana Ruggeri, Amedea Mencarelli, Francesco Grignani, and Andrea Velardi.*** Natural killer cell–mediated lysis of autologous cells modified by gene therapy

1863 ***Robert J. Wilkinson, Punita Patel, Martin Llewelyn, Christina S. Hirsch, Geoffrey Pasvol, Georges Snounou, Robert N. Davidson, and Zahra Toossi.*** Influence of polymorphism in the genes for the interleukin (IL)-1 receptor antagonist and IL-1β on tuberculosis

1875 ***Christiane Ruedl, Manfred Kopf, and Martin F. Bachmann.*** $CD8^+$ T cells mediate CD40-independent maturation of dendritic cells in vivo

1885 ***Brigitte M. Haselden, A. Barry Kay, and Mark Larché.*** Immunoglobulin E–independent major histocompatibility complex–restricted T cell peptide epitope–induced late asthmatic reactions

1895 ***Frederick P. Heinzel and Ronald M. Rerko.*** Cure of progressive murine leishmaniasis: interleukin 4 dominance is abolished by transient $CD4^+$ T cell depletion and T helper cell type 1–selective cytokine therapy

1907 ***Florence Tilloy, Emmanuel Treiner, Se-Ho Park, Corinne Garcia, François Lemonnier, Henri de la Salle, Albert Bendelac, Marc Bonneville, and Olivier Lantz.*** An invariant T cell receptor α chain defines a novel TAP-independent major histocompatibility complex class Ib–restricted α/β T cell subpopulation in mammals

1923 ***Mohamed Hachicha, Marc Pouliot, Nicos A. Petasis, and Charles N. Serhan.*** Lipoxin $(LX)A_4$ and aspirin-triggered 15-epi-LXA_4 inhibit tumor necrosis factor 1α–initiated neutrophil responses and trafficking: regulators of a cytokine–chemokine axis

1931 ***Guangming Zhong, Tao Fan, and Li Liu.*** Chlamydia inhibits interferon γ–inducible major histocompatibility complex class II expression by degradation of upstream stimulatory factor 1

1939 ***Ursula Kapp, Wen-Chen Yeh, Bruce Patterson, Andrew J. Elia, David Kägi, Alexandra Ho, Andrew Hessel, Mike Tipsword, Alexia Williams, Christine Mirtsos, Annick Itie, Matthew Moyle, and Tak W. Mak.*** Interleukin 13 is secreted by and stimulates the growth of Hodgkin and Reed-Sternberg cells

1947 ***Masao Yuda, Toshiki Sawai, and Yasuo Chinzei.*** Structure and expression of an adhesive protein–like molecule of mosquito invasive-stage malarial parasite

1953 ***Alberto Gobbi, Cheryl A. Stoddart, Mauro S. Malnati, Giuseppe Locatelli, Fabio Santoro, Nancy W. Abbey, Christopher Bare, Valerie Linquist-Stepps, Mary Beth Moreno, Brian G. Herndier, Paolo Lusso, and Joseph M. McCune.*** Human herpesvirus 6 (HHV-6) causes severe thymocyte depletion in SCID-hu Thy/Liv mice

1961 ***Sheena A. Linehan, Luisa Martínez-Pomares, Philip D. Stahl, and Siamon Gordon.*** Mannose receptor and its putative ligands in normal murine lymphoid and nonlymphoid organs: in situ expression of mannose receptor by selected macrophages, endothelial cells, perivascular microglia, and mesangial cells, but not dendritic cells

1973 ***Samuel M. Behar, Chris C. Dascher, Michael J. Grusby, Chyung-Ru Wang, and Michael B. Brenner.*** Susceptibility of mice deficient in CD1D or TAP1 to infection with *Mycobacterium tuberculosis*

Brief Definitive Reports

1981 ***Toshiaki Ohteki, Taro Fukao, Kazutomo Suzue, Chikako Maki, Mamoru Ito, Masataka Nakamura, and Shigeo Koyasu.*** Interleukin 12–dependent interferon γ production by $CD8\alpha^+$ lymphoid dendritic cells

1987 ***Hal E. Broxmeyer, Scott Cooper, Giao Hangoc, Ji-Liang Gao, and Philip M. Murphy.*** Dominant myelopoietic effector functions mediated by chemokine receptor CCR1

1993 ***Michael J. Endres, Charles G. Garlisi, Hong Xiao, LiXin Shan, and Joseph A. Hedrick.*** The Kaposi's sarcoma–related herpesvirus (KSHV)-encoded chemokine vMIP-I is a specific agonist for the CC chemokine receptor (CCR)8

1999 ***Correction***

2001 ***Author Index to Volume 189***

2021 ***Subject Index to Volume 189***